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| 09/921,393 | 08/02/2001 | Ole Droz | 112740-273 | 5984 |

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| EXAMINER | |
|---|---|
| HAILE, FEBEN | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/921,393 | DROZ, OLE | |
| | Examiner | Art Unit | |
| | Feben M. Haile | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1* is/are allowed.

6)☒ Claim(s) *2-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

**1.** In view of applicant's amendment filed March 29, 2007, the status of the application is still pending with respect to claims 1-19.

**2.** The amendment filed is insufficient to overcome the rejection of claims 2-19 based upon Shankar et al. (US 6,768,733) as set forth in the last Office action because: the Applicant's arguments are not persuasive enough to adequately clarify a distinction over the cited reference.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**3.** Claim 19 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Applicant fails to suggest newly added material "computer readable medium" within the disclosure. The Examiner suggests replacing the new limitation with " A program stored in a memory module which when executed with the aid of a

processor, performs the steps of". Support for such language can be found within the disclosure on page 8 lines 21-24.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**4.** Claims 2-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Shankar et al. (US 6,768,733), hereinafter referred to as Shankar.

**Regarding claim 2**, Shankar discloses the limitations: providing a signaling unit having at least two line units which can be used to set up a connection for transmitting data **(figure 1 units 120, 122, 124, and 126; column 4 lines 19-23; column 5 lines 25-32; an originating signaling unit, comprised of components OCC, UCM, and TCC, is responsible for setting up a voice connection)**, wherein at least one of the line units uses a different external signaling protocol as compared to the other line units **(column 5 lines 31-53; the OCC converts signaling messages between the protocol of the originating side and a non-protocol specific universal protocol, the UCM handles a signaling message in a universal protocol and the TCC receives the signaling message from the UCM and converts it from the universal protocol to a protocol for providing connectivity to the terminating side)**;

transmitting the user data in data packets via network nodes of a network; **(column 3 lines 29-33, voice data produced by the originating node is converted into packets for a packet-switching network)**; terminating, via the line units, signaling toward a terminal device involved in the data transmission in accordance with a signaling protocol of circuit-switched transmission of user data **(column 13 lines 56-61; the TCC of the originating signaling unit transmits an XISUP IAM message to a terminating signaling unit)**; and directly passing on signaling messages, arriving at the at least one of the line units for switching of the data packets, to another of the line units with the aid of internal signaling messages defined for the signaling unit **(column 13 lines 8-12; the OCC outputs an internal CALL message to the UCM of the signaling unit)**, wherein the internal signaling identifies an appropriate line unit for passing on signaling messages given the protocol that is required **(column 13 lines 21-61; the UCM receives the CALL message, selects a bearer channel, and creates a CRCX message for helping to identify, through lookup tables, a terminating signaling unit for receiving the signaling message through the TCC)**.

Although Shankar fails to explicitly suggest "directly" passing on signaling messages, he/she does teach an alternative embodiment, where only the OCC and TCC are implemented, with the functionality for the UCM being distributed over the OCC and TCC **(column 5 lines 42-46)**. Hence messages from the OCC to the TCC are directly passed between the line units. It would have been obvious to one having ordinary skill in the art at the time the invention was made

to implement such an embodiment so as to seamlessly integrate legacy SS7 type systems and new packet switching networks.

**Regarding claim 3**, Shankar discloses the limitations: wherein the line units can be connected to each other **(figure 1 unit 120, 122, 124, and 26; column 13 lines 8-12; the OCC, UCM, and TCC of the originating signaling unit send messages to each other; it is in inherent that in order for these components to communicate, they have to be connected to each other in some type of manner)**.

**Regarding claim 4**, Shankar discloses the limitations: wherein the line units can be connected via a switching network which transmits the internal signaling messages via one of channels, a bus system and a data network **(figure 1 units 120, 140 and 132; column 12 lines 55-59; the originating signaling unit, which include OCC, UCM and TCC, transmit messages through a network to the terminating signaling unit, which also includes an OCC, UCM and TCC)**.

**Regarding claim 5**, Shankar discloses the limitations: controlling the connection of the line units according to a connection destination **(column 13 lines 13-15; the internal CALL message from the OCC to the UCM includes a destination number)**.

**Regarding claim 6**, Shankar discloses the limitations: using at least one signaling message to transmit an information element, wherein the information element contains at least one of an address at which one of the terminal device and a network inter-working unit can receive data packets on the terminal device

side **(column 13 lines 13-15; the internal CALL message from the OCC to the UCM includes a destination number)**; a port number which designates a receiving unit of one of the terminal device and the network inter-working unit **(column 13 lines 36-40; a CRCX message includes a port number)**, and a coding identification which designates a type of coding used sending data packets to one of the terminal device and the network inter-working unit **(column 13 lines 44-48; the CRCX message indicates encoding capabilities of the originating coding unit)**.

**Regarding claim 7**, Shankar discloses using further line units for switching user data in a circuit-switched network **(figure 1 units 140, 142, 144, and 146; column 4 lines 19-23, and column 5 lines 25-32; the terminating signaling unit, also comprised of components OCC, UCM, and TCC, is responsible for a voice connection)**; and processing, via the further line units, at least similar internal signaling messages as the line units involved in setting up the connection for the transmission of user data packets **(column 13 line 62-column 14 line 5; upon receipt of an XISUP IAM message from the originating signaling unit, the terminating signaling unit issue a CRCX message)**.

**Regarding claim 8**, Shankar discloses the limitations: wherein at least one of the line units involved in the connection set up operates toward the outside in accordance with an ISUP protocol **(column 13 lines 56-61; the TCC of the originating signaling unit transmits an XISUP IAM message to the terminating signaling unit)**.

**Regarding claim 9**, Shankar discloses the limitations: wherein at least one of the line units involved in the connection set up operates toward the outside in accordance with a supplemented ISUP protocol **(column 13 lines 56-61; the TCC of the originating signaling unit transmits an XISUP IAM message to the terminating signaling unit)**, and the process further comprises the step of using at least one information element for transmitting at least one of an address at which one of the terminal device and a network inter-working unit in the packet-switched network can receive data packets **(column 13 lines 13-15; the internal CALL message from the OCC to the UCM includes a destination number)**, a port number which designates a receiving unit of one of the terminal device and the network inter-working unit **(column 13 lines 36-40; a CRCX message includes a port number)**, and a coding identification which designates a type of coding used when sending data packets to one of the terminal device and the network inter-working unit **(column 13 lines 44-48; the CRCX message indicates encoding capabilities of a originating coding unit)**.

**Regarding claim 10**, Shankar discloses the limitations: wherein at least one of the line units involved in the connection set up terminates the signaling in accordance with a signaling protocol for a packet-transmitting data network device **(column 13 lines 27-28; the UCM generates the (CRCX))**.

**Regarding claim 11**, Shankar discloses the limitations: wherein the signaling protocol is a protocol for signaling with a terminal device, the protocol being one of an H.323 protocol, an SIP protocol, and an MGCP protocol **(column**

**4 lines 26-31; the signaling unit converts protocols, such as H.323 and SIP, into messages for communications)**.

Regarding claim 12, Shankar discloses the limitations: transmitting data packets, via the signaling protocol, on a lower protocol layer **(column 13 lines 55-59; the TCC generates an XISUP IAM message; it is inherent that ISUP is a lower layer protocol)**; and, transmitting signaling messages, via the signaling protocol, originally defined for a circuit-switch transmission network on an upper protocol layer **(column 13 lines 27-28; the UCM generates a CRCX message; it is inherent that CRCX is a RFC2705 standard, which is a higher layer protocol)**.

Regarding claim 13, Shankar discloses the limitations: wherein at least one of the line units involved in the connection set up involves a control unit and a network inter-working unit in the switching operation **(column 12 lines 50-58; an originating coding unit sends a connection request to the originating signaling unit, where a controller receives it)**, and wherein, in the network inter-working unit, after the connection set up, at least one event occurs between removing the user data of the connection from time slots and distributing the user data among data packets **(column 3 lines 54-58; the originating coding unit receives a voice call, extracts signaling data, time stamps it, and packages it into IP or ATM packets)**, and disassembling the user data of the connection from received data packets and passing the user data on in time slots **(column 12 lines 50-58; the controller receives the connection message, unpacks it into protocol data units and submits it)**.

**Regarding claim 14**, Shankar discloses the limitations: wherein the at least two line units involve different control units **(figure 3 units 302, 304, and 306; the OCC, UCM, and TCC have their own controllers)**.

**Regarding claim 15**, Shankar discloses the limitations: wherein one line unit contains at least two component units which exchange internal signaling messages with one another **(figure 3 units 302, 304, 306, 312, 314, and 316; column 8 lines 19-22; column 8 lines 42-44; the OCC, UCM, and TCC each have their own controller and protocol adapter for handling messages)**.

**Regarding claim 16**, Shankar discloses the limitations: wherein the user data are passed on in one of a connection list mode by network nodes of the packet-transmitting network in accordance with an IP protocol **(figure 1 unit 130 and column 3 lines 18-20; the network can be implemented as an IP)**, and a connection-oriented mode by the network nodes of the packet-transmitting network in accordance with the ATM protocol **(figure 1 unit 130 and column 3 lines 18-20; the network can be implemented as an ATM)**.

**Regarding claims 17 & 18**, Shankar discloses the limitations: at least two line units which are used to set up a connection for transmitting user data in data packets **(figure 1 units 120, 122, 124, and 126, column 4 lines 19-23, and column 5 lines 25-32; the originating signaling unit, comprised of components OCC, UCM, and TCC, is responsible for setting up a voice connection)**, wherein at least one of the line units uses a different external signaling protocol as compared to the other line units **(column 5 lines 31-53; the OCC converts signaling messages between the protocol of the originating**

**side and a non-protocol specific universal protocol, the UCM handles a signaling message in a universal protocol and the TCC receives the signaling message from the UCM and converts it from the universal protocol to a protocol for providing connectivity to the terminating side)**; and at least one terminal device wherein the line units terminate signaling toward one of the terminal devices involved in the data transmission **(column 13 lines 56-61; the TCC of the originating signaling unit transmits an XISUP IAM message to the terminating signaling unit)**, and signaling messages arriving at one of the at least one line units using a different external signaling protocol are directly passed on to the other of the line units with the aid of internal signaling messages defined for the signaling unit **(column 13 lines 8-12; the OCC unpacks a message and outputs an internal CALL message to the UCM)**, wherein the internal signaling identifies an appropriate line unit for passing on signaling messages given the protocol that is required **(column 13 lines 21-61; the UCM receives the CALL message, selects a bearer channel, and creates a CRCX message for helping to identify, through lookup tables, a terminating signaling unit for receiving the signaling message through the TCC)**.

Although Shankar fails to explicitly suggest "directly" passing on signaling messages, he/she does teach an alternative embodiment, where only the OCC and TCC are implemented, with the functionality for the UCM being distributed over the OCC and TCC **(column 5 lines 42-46)**. Hence messages from the OCC to the TCC are directly passed between the line units. It would have been

obvious to one having ordinary skill in the art at the time the invention was made to implement such an embodiment so as to seamlessly integrate legacy SS7 type systems and new packet switching networks.

Regarding claim 19, Shankar discloses the limitations: transmitting the user data in data packets via network nodes of a network **(column 3 lines 29-33; voice data produced by the originating node is converted into packets for transmission through a packet-switching network)**; terminating, via the line units, signaling toward a terminal device involved in the data transmission **(column 13 lines 56-61; the TCC of the originating signaling unit transmits an XISUP IAM message to a terminating signaling unit)**; and directly passing on signaling messages, arriving at one of the at least one line units for switching of the data packets, to another of the line units with the aid of internal signaling messages defined for the signaling unit **(column 13 lines 8-12; the OCC outputs an internal CALL message to the UCM)**, wherein the internal signaling maps the external signaling messages and identifies an appropriate line unit for passing on signaling messages using the optional connections given the protocol that is required **(column 13 lines 21-61; the UCM receives the CALL message, selects a bearer channel, and creates a CRCX message for helping to identify, through lookup tables, a terminating signaling unit for receiving the signaling message through the TCC)**.

Although Shankar fails to explicitly suggest "directly" passing on signaling messages, he/she does teach an alternative embodiment, where only the OCC and TCC are implemented, with the functionality for the UCM being distributed

over the OCC and TCC **(column 5 lines 42-46)**. Hence messages from the OCC to the TCC are directly passed between the line units. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such an embodiment so as to seamlessly integrate legacy SS7 type systems and new packet switching networks.

### *Allowable Subject Matter*

**5.** Claim 1 allowed. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose, teach, or fairly suggest eliminating the rigid connection between at least three line units previously customary in signaling for packet based networks.

### *Response to Arguments*

**6.** Applicant's arguments filed March 29, 2007have been fully considered but they are not persuasive.

The Applicant respectfully traverses that Shankar does not teach or suggest the features of directly passing on signaling messages, arriving at the at least one of the line units using a different external signaling protocol for switching of the data packets, to another of the line units with the aid of internal signaling messages defined for the signaling unit, wherein the internal signaling identifies an appropriate line unit for directly passing on signaling messages given the protocol that is required. The Examiner respectfully disagrees with the Applicant. Shankar discloses an originating signaling unit 120 and a terminating

signaling unit 140 each comprising three components referred to as an originating call control (OCC) 122, a universal call model (UCM) 124, and a terminating call control (TCC) 126. The originating call control (OCC) 122, converts signaling messages between the protocol of the originating side, for example, DPNSS, and a non-protocol specific universal protocol. The universal call model (UCM) 124, handles calls in the converted universal protocol and arranges for messages to be transmitted. The terminating call control (TCC) 126, after routing analysis has determined the route, converts signaling messages between the universal protocol and the protocol that provides connectivity to the terminating signaling unit 140, which may be different from the protocol of the terminating node 160. Shankar goes on to suggest that in an alternative embodiment, only the OCC and TCC are implemented, with the functionality for the UCM being distributed over the OCC and TCC **(column 5 lines 42-46)**. Hence messages from the OCC to the TCC are directly passed between the line units. Therefore as the claims are interpreted in their broadest sense, the Examiner believes that Shankar indeed does render the Applicant's invention obvious.

Furthermore, the Applicant respectfully traverses that the protocol does not "identify" a line unit. The Examiner respectfully disagrees with the Applicant. The OCC implements a DPNSS protocol and the TCC implements a ISUP protocol. Hence knowing the protocol is informative of the particular line unit passing on the signaling message. Therefore as the claims are interpreted in

their broadest sense, the Examiner believes that Shankar indeed does render the Applicant's invention obvious.

***Conclusion***

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**8.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

06/25/2007

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